Author Index

Adams, J.C., see Schmiedt, R.A. (45) 221
Attias, J., Sohmer, H., Gold, S., Haran, I. and Shahar, A.
Noise and hypoxia induced temporary threshold shifts in rats studied by ABR (45) 247

Berlin, C.I., see Hood, L.J. (45) 115
Broto, J.P., see Gil-Loyzaga, P. (45) 151
Bueno, A.M., see Gil-Loyzaga, P. (45) 151

Cazals, Y., see Horner, K.C. (45) 145
Chang, S.O., see Kim, D.O. (45) 95
Coleman, J.R., see Zrull, M.C. (45) 237
Csépe, V., see Mäkelä, J.P. (45) 41

Doi, K., Mori, N. and Matsunaga, T.
Effects of forskolin and 1,9-dideoxy-forskolin on cochlear potentials (45) 157

Epping, W.J.M.
Influence of adaptation on neural sensitivity to temporal characteristics of sound in the dorsal medullary nucleus and torus semicircularis of the grassfrog (45) 1
Evans, B.N.
Fatal Contractions: Ultrastructural and electromechanical changes in outer hair cells following transmembraneous electrical stimulation (45) 265

Fex, J., see Kachar, B. (45) 179

Gil-Loyzaga, P., Bueno, A.M., Broto, J.P. and Pérez, A.M.
Effects of perinatal hypothyroidism in the carbohydrate composition of cochlear tectorial membrane (45) 151
Gitter, A.H. and Zenner, H.-P.
The cell potential of isolated inner hair cells in vitro (45) 87
Gleich, O., Johnstone, B.M. and Robertson, D.
Effects of L-Glutamate on auditory afferent activity in view of its proposed excitatory transmitter role in the mammalian cochlea (45) 295
Gold, S., see Attias, J. (45) 247
Gray, L.
Development of temporal integration in newborn chickens (45) 169

Hall, R.D.
Estimation of surviving spiral ganglion cells in the deaf rat using the electrically evoked auditory brainstem response (45) 123
Haran, I., see Attias, J. (45) 247
Hasko, J.A., Richardson, G.P., Russell, I.J. and Shaw, G.
Transient expression of neurofilament protein during hair cell development in the mouse cochlea (45) 63
Hood, L.J., Martin, D.A. and Berlin, C.I.
Auditory evoked potentials differ at 50 milliseconds in right- and left-handed listeners (45) 115
Horner, K.C. and Cazals, Y.
Alterations of CAP audiogram by increased endolymphatic pressure and its relation to hydrops (45) 145
Hoxter, B., see Popper, A.N. (45) 33

Jho, H.D., see Møller, A.R. (45) 75
Johnstone, B.M., see Gleich, O. (45) 295

Kachar, B., Parakkal, M. and Fex, J.
Structural basis for mechanical transduction in the frog vestibular sensory apparatus: I. The otolithic membrane (45) 179
Karmos, G., see Mäkelä, J.P. (45) 41
Kim, D.O., Sirianni, J.G. and Chang, S.O.
Responses of DCN-PVCN neurons and auditory nerve fibers in unanesthetized decerebrate cats to AM and pure tones: Analysis with autocorrelation/power-spectrum (45) 95

Ledwith, III, J.V., see Brown, M.C. (45) 115

Mäkelä, J.P., Karmos, G., Molnár, M., Csépe, V. and Winkler, I.
Steady-state responses from the cat auditory cortex (45) 41
Martin, D.A., see Hood, L.J. (45) 115
Matsunaga, T., see Doi, K. (45) 157
McGinn, M.D., see Moore, H.C. (45) 253
Merchan, J.A., see Prieto, J.J. (45) 283
Merchan, J.A., see Prieto, J.J. (45) 51
Mills, J.H., see Schmiedt, R.A. (45) 221
Møller, A.R. and Jho, H.D.
Late components in the compound action potentials (CAP) recorded from the intracranial portion of the human eighth nerve (45) 75
Molnár, M., see Mäkelä, J.P. (45) 41
Moore, H.C. and McGinn, M.D.
Effects of profound sensorineural loss on gerbilline auditory encephalopathy (45) 253
Mori, N., see Doi, K. (45) 157

Parakkal, M., see Kachar, B. (45) 179
Patuzzi, R. and Rajan, R.
Does electrical stimulation of the crossed olivo-cochlear bundle produce movement of the organ of Corti? (45) 15
Pérez, A.M., see Gil-Loyzaga, P. (45) 151
Popper, A.N. and Hoxter, B.
Growth of a fish ear II. Locations of newly proliferated sensory hair cells in the saccular epithelium of *Astronotus ocellatus* (45) 33
Prieto, J.J., Rubio, M.E. and Merchan, J.A.
Localization of anionic sulfate groups in the tectorial membrane (45) 283
Prieto, J.J., Rueda, J. and Merchan, J.A.
Two different secretion mechanisms in the inner ear's interdental cells (45) 51

Rajan, R.
The effect of upper pontine transections on normal cochlear responses and on the protective effects of contralateral acoustic stimulation in barbiturate-anaesthetized normal-hearing guinea pigs (45) 137
Rajan, R., see Patuzzi, R. (45) 15
Richardson, G.P., see Hasko, J.A. (45) 63
Robertson, D., see Gleich, O. (45) 295
Robertson, D., see Winter, I.M. (45) 191
Robertson, D., see Yates, G.K. (45) 203
Rubio, M.E., see Prieto, J.J. (45) 283
Rueda, J., see Prieto, J.J. (45) 51
Russell, I.J., see Hasko, J.A. (45) 63

Schmiedt, R.A., Mills, J.H. and Adams, J.C.
Tuning and suppression in auditory nerve fibers of aged gerbils raised in quiet or noise (45) 221
Shahar, A., see Attias, J. (45) 247
Shaw, G., see Hasko, J.A. (45) 63
Sirianni, J.G., see Kim, D.O. (45) 95
Sohmer, H., see Attias, J. (45) 247

Winkler, I., see Mäkelä, J.P. (45) 41
Winter, I.M., Robertson, D. and Yates, G.K.
Diversity of characteristic frequency rate-intensity functions in guinea pig auditory nerve fibres (45) 191
Winter, I.M., see Yates, G.K. (45) 203

Yates, G.K., Winter, I.M. and Robertson, D.
Basilar membrane nonlinearity determines auditory nerve rate-intensity functions and cochlear dynamic range (45) 203
Yates, G.K., see Winter, I.M. (45) 191

Zenner, H.-P., see Gitter, A.H. (45) 87
Zrull, M.C. and Coleman, J.R.
Fetal tectum grafted as a cell suspension into the adult rat inferior colliculus (45) 237

Subject Index

ABR
Noise; Hypoxia; TTS; Threshold; Hearing loss (Attias, J. (45) 247)

Active cochlear processes
Human auditory nerve; Compound action potentials (Møller, A.R. (45) 75)

Adaptation
Amplitude modulation; Anuran; Click; Mating call; Temporal processing (Epping, W.J.M. (45) 1)

Adenylate cyclase
Cyclic AMP; Forskolin; Endocochlear potential; Cochlear microphonics (Doi, K. (45) 157)

Aging
Cochlea; Hearing loss; Presbyacusis; Gerbil; Auditory nerve; Noise; Tuning; Suppression (Schmiedt, R.A. (45) 221)

Amplitude modulation
Adaptation; Anuran; Click; Mating call; Temporal processing (Epping, W.J.M. (45) 1)

Cochlear nucleus; DCN; PVCN; Auditory nerve; Autocorrelation; Power spectrum (Kim, D.O. (45) 95)

Anuran
Adaptation; Amplitude modulation; Click; Mating call; Temporal processing (Epping, W.J.M. (45) 1)

Auditory
Pontine transection; Descending influences; Olivocochlear; Cochlea (Rajan, R. (45) 137)

Brain stem; Cochlea; Cochlear nucleus; Degeneration; Encephalopathy; Gerbil (Moore, H.C. (45) 253)

Auditory afferents
Cochlea; Hair cell; Synapse; Transmitter; L-Glutamate (Gleich, O. (45) 295)

Auditory cortex
Auditory evoked potentials; Cat; Steady-state responses; 40 Hz response (Mäkelä, J.P. (45) 41)

Auditory evoked potentials
Auditory cortex; Cat; Steady-state responses; 40 Hz response (Mäkelä, J.P. (45) 41)

Handedness; Middle latency response; Hemispheric specialization (Hood, L.J. (45) 129)

Auditory nerve
Cochlear nucleus; Amplitude modulation; DCN; PVCN; Autocorrelation; Power spectrum (Kim, D.O. (45) 95)

Spiral ganglion; EABR; Rat; Evoked potentials (Hall, R.D. (45) 137)

Guinea pig; Rate-intensity function; Spontaneous discharge rate; Threshold; Dynamic range (Winter, I.M. (45) 191)

Rate-intensity functions; Basilar membrane nonlinearity; Dynamic range; Loudness perception (Yates, G.K. (45) 203)

Aging; Cochlea; Hearing loss; Presbyacusis; Gerbil; Noise; Tuning; Suppression (Schmiedt, R.A. (45) 221)

Autocorrelation
Cochlear nucleus; Amplitude modulation; DCN; PVCN; Auditory nerve; Power spectrum (Kim, D.O. (45) 95)

Basilar membrane nonlinearity
Auditory nerve; Rate-intensity functions; Dynamic range; Loudness perception (Yates, G.K. (45) 203)

Brain stem
Auditory; Cochlea; Cochlear nucleus; Degeneration; Encephalopathy; Gerbil (Moore, H.C. (45) 253)

Carbohydrates
Cochlea; Tectorial membrane; Lectins; Hypothyroidism; Rat (Gil-Loyzaga, P. (45) 151)

Cat
Auditory evoked potentials; Auditory cortex; Steady-state responses; 40 Hz response (Mäkelä, J.P. (45) 41)

Cell membrane potential difference
Hearing loss; Hair cell, inner; Patch-clamp; Potassium permeability (Gitter, A.H. (45) 87)

Cell suspension
Inferior colliculus; Tectum; Transplantation; Fluorescent dye (Zrull, M.C. (45) 237)

Chickens
Development; Duration; Threshold (Gray, L. (45) 169)

Click
Adaptation; Amplitude modulation; Anuran; Mating call; Temporal processing (Epping, W.J.M. (45) 1)

Cochlea
Neurofilaments; Development; Hair cells (Hasko, J.A. (45) 63)

Pontine transection; Descending influences; Olivocochlear; Auditory (Rajan, R. (45) 137)

Pressure; Hydrops; Menière's; Endolymph (Horner, K.C. (45) 145)

Tectorial membrane; Lectins; Carbohydrates; Hypothyroidism; Rat (Gil-Loyzaga, P. (45) 151)

Aging; Hearing loss; Presbyacusis; Gerbil; Auditory nerve; Noise; Tuning; Suppression (Schmiedt, R.A. (45) 221)

Auditory; Brain stem; Cochlear nucleus; Degeneration; Encephalopathy; Gerbil (Moore, H.C. (45) 253)

Hair cell; Auditory afferents; Synapse; Transmitter; L-Glutamate (Gleich, O. (45) 295)

Cochlear microphonics
Efferent fibres; Hair cells, outer; Slow contraction (Patuzzi, R. (45) 15)

Adenylate cyclase; Cyclic AMP; Forskolin; Endocochlear potential (Doi, K. (45) 157)

Cochlear nucleus
Amplitude modulation; DCN; PVCN; Auditory nerve; Autocorrelation; Power spectrum (Kim, D.O. (45) 95)

Auditory; Brain stem; Cochlea; Degeneration; Encephalopathy; Gerbil (Moore, H.C. (45) 253)

Compound action potentials
Human auditory nerve; Active cochlear processes (Møller, A.R. (45) 75)

Cyclic AMP
Adenylate cyclase; Forskolin; Endocochlear potential; Cochlear microphonics (Doi, K. (45) 157)

DCN
Cochlear nucleus; Amplitude modulation; PVCN; Auditory nerve; Autocorrelation; Power spectrum (Kim, D.O. (45) 95)

Degeneration
Auditory; Brain stem; Cochlea; Cochlear nucleus; Encephalopathy; Gerbil (Moore, H.C. (45) 253)

Descending influences
Pontine transection; Olivocochlear; Cochlea; Auditory (Rajan, R. (45) 137)

Development
Neurofilaments; Cochlea; Hair cells (Hasko, J.A. (45) 63)

Duration; Threshold; Chickens (Gray, L. (45) 169)

Donnan equilibrium
Organ of Corti; Tectorial membrane; Sulfated glycoconjugates (Prieto, J.J. (45) 283)

Duration
Development; Threshold; Chickens (Gray, L. (45) 169)

Dynamic range
Guinea pig; Auditory nerve; Rate-intensity function; Spontaneous discharge rate; Threshold (Winter, I.M. (45) 191)

Auditory nerve; Rate-intensity functions; Basilar membrane nonlinearity; Loudness perception (Yates, G.K. (45) 203)

EABR
Auditory nerve; Spiral ganglion; Rat; Evoked potentials (Hall, R.D. (45) 137)

Efferent fibres
Hair cells, outer; Cochlear microphonic; Slow contraction (Patuzzi, R. (45) 15)

Encephalopathy
Auditory; Brain stem; Cochlea; Cochlear nucleus; Degeneration; Gerbil (Moore, H.C. (45) 253)

Endocochlear potential
Adenylate cyclase; Cyclic AMP; Forskolin; Cochlear microphonics (Doi, K. (45) 157)

Endolymph
Organ of Corti; Interdental cells; Tectorial membrane; Secretion (Prieto, J.J. (45) 51)

Pressure; Hydrops; Menière's; Cochlea (Horner, K.C. (45) 145)

Evoked potentials
Auditory nerve; Spiral ganglion; EABR; Rat (Hall, R.D. (45) 137)

Fish
Saccule; Hair Cell; Proliferation; Growth (Popper, A.N. (45) 33)

Fluorescent dye
Inferior colliculus; Tectum; Transplantation; Cell suspension (Zrull, M.C. (45) 237)

Forskolin
Adenylate cyclase; Cyclic AMP; Endocochlear potential; Cochlear microphonics (Doi, K. (45) 157)

Frog vestibular sensory organ
Otolithic sensory apparatus; Otolithic membrane; Mechanical transduction; Vestibular sensory macula (Kachar, B. (45) 179)

Gerbil
Aging; Cochlea; Hearing loss; Presbyacusis; Auditory nerve; Noise; Tuning; Suppression (Schmiedt, R.A. (45) 221)

Auditory; Brain stem; Cochlea; Cochlear nucleus; Degeneration; Encephalopathy (Moore, H.C. (45) 253)

L-Glutamate
Cochlea; Hair cell; Auditory afferents; Synapse; Transmitter (Gleich, O. (45) 295)

Growth
Fish; Saccule; Hair Cell; Proliferation (Popper, A.N. (45) 33)

Guinea pig
Auditory nerve; Rate-intensity function; Spontaneous discharge rate; Threshold; Dynamic range (Winter, I.M. (45) 191)

Hair cells
Fish; Saccule; Proliferation; Growth (Popper, A.N. (45) 33)

Neurofilaments; Cochlea; Development (Hasko, J.A. (45) 63)

Cochlea; Auditory afferents; Synapse; Transmitter; L-Glutamate (Gleich, O. (45) 295)

Hair cell, inner
Cell membrane potential difference; Hearing loss; Patch-clamp; Potassium permeability (Gitter, A.H. (45) 87)

Hair cells, outer
Efferent fibres; Cochlear microphonic; Slow contraction (Patuzzi, R. (45) 15)

Handedness
Auditory evoked potentials; Middle latency response; Hemispheric specialization (Hood, L.J. (45) 129)

Hearing loss
Cell membrane potential difference; Hair cell, inner; Patch-clamp; Potassium permeability (Gitter, A.H. (45) 87)

Aging; Cochlea; Presbyacusis; Gerbil; Auditory nerve; Noise; Tuning; Suppression (Schmiedt, R.A. (45) 221)

Noise; Hypoxia; ABR; TTS; Threshold (Attias, J. (45) 247)

Hemispheric specialization
Handedness; Auditory evoked potentials; Middle latency response (Hood, L.J. (45) 129)

Human auditory nerve
Compound action potentials; Active cochlear processes (Møller, A.R. (45) 75)

Hydrops
Pressure; Menière's; Endolymph; Cochlea (Horner, K.C. (45) 145)

Hypothyroidism
Cochlea; Tectorial membrane; Lectins; Carbohydrates; Rat (Gil-Loyzaga, P. (45) 151)

Hypoxia
Noise; ABR; TTS; Threshold; Hearing loss (Attias, J. (45) 247)

40 Hz response
Auditory evoked potentials; Auditory cortex; Cat; Steady-state responses (Mäkelä, J.P. (45) 41)

Inferior colliculus
Tectum; Transplantation; Cell suspension; Fluorescent dye (Zrull, M.C. (45) 237)

Interdental cells
Organ of Corti; Tectorial membrane; Endolymph; Secretion (Prieto, J.J. (45) 51)

Lectins
Cochlea; Tectorial membrane; Carbohydrates; Hypothyroidism; Rat (Gil-Loyzaga, P. (45) 151)

Loudness perception
Auditory nerve; Rate-intensity functions; Basilar membrane nonlinearity; Dynamic range (Yates, G.K. (45) 203)

Mating call
Adaptation; Amplitude modulation; Anuran; Click; Temporal processing (Epping, W.J.M. (45) 1)

Mechanical transduction
Otolithic sensory apparatus; Otolithic membrane; Vestibular sensory macula; Frog vestibular sensory organ (Kachar, B. (45) 179)

Menière's
Pressure; Hydrops; Endolymph; Cochlea (Horner, K.C. (45) 145)

Middle latency response
Handedness; Auditory evoked potentials; Hemispheric specialization (Hood, L.J. (45) 129)

Motility
Outer hair cell; Ultrastructure; Subsurface cisternae (Evans, B.N. (45) 265)

Neurofilaments
Cochlea; Development; Hair cells (Hasko, J.A. (45) 63)

Noise
Aging; Cochlea; Hearing loss; Presbyacusis; Gerbil; Auditory nerve; Tuning; Suppression (Schmiedt, R.A. (45) 221)

Hypoxia; ABR; TTS; Threshold; Hearing loss (Attias, J. (45) 247)

Olivocochlear
Pontine transection; Descending influences; Cochlea; Auditory (Rajan, R. (45) 137)

Organ of Corti
Interdental cells; Tectorial membrane; Endolymph; Secretion (Prieto, J.J. (45) 51)

Tectorial membrane; Sulfated glycoconjugates; Donnan equilibrium (Prieto, J.J. (45) 283)

Otolithic membrane
Otolithic sensory apparatus; Mechanical transduction; Vestibular sensory macula; Frog vestibular sensory organ (Kachar, B. (45) 179)

Otolithic sensory apparatus
Otolithic membrane; Mechanical transduction; Vestibular sensory macula; Frog vestibular sensory organ (Kachar, B. (45) 179)

Outer hair cell
Motility; Ultrastructure; Subsurface cisternae (Evans, B.N. (45) 265)

Patch-clamp
Cell membrane potential difference; Hearing loss; Hair cell, inner; Potassium permeability (Gitter, A.H. (45) 87)

Pontine transection
Descending influences; Olivocochlear; Cochlea; Auditory (Rajan, R. (45) 137)

Potassium permeability
Cell membrane potential difference; Hearing loss; Hair cell, inner; Patch-clamp (Gitter, A.H. (45) 87)

Power spectrum
Cochlear nucleus; Amplitude modulation; DCN; PVCN; Auditory nerve; Autocorrelation (Kim, D.O. (45) 95)

Presbyacusis
Aging; Cochlea; Hearing loss; Gerbil; Auditory nerve; Noise; Tuning; Suppression (Schmiedt, R.A. (45) 221)

Pressure
Hydrops; Menière's; Endolymph; Cochlea (Horner, K.C. (45) 145)

Proliferation
Fish; Saccule; Hair Cell; Growth (Popper, A.N. (45) 33)

PVCN
Cochlear nucleus; Amplitude modulation; DCN; Auditory nerve; Autocorrelation; Power spectrum (Kim, D.O. (45) 95)

Rat
Auditory nerve; Spiral ganglion; EABR; Evoked potentials (Hall, R.D. (45) 137)

Cochlea; Tectorial membrane; Lectins; Carbohydrates; Hypothyroidism (Gil-Loyzaga, P. (45) 151)

Rate-intensity functions
Guinea pig; Auditory nerve; Spontaneous discharge rate; Threshold; Dynamic range (Winter, I.M. (45) 191)

Auditory nerve; Basilar membrane nonlinearity; Dynamic range; Loudness perception (Yates, G.K. (45) 203)

Saccule
Fish; Hair Cell; Proliferation; Growth (Popper, A.N. (45) 33)

Secretion
Organ of Corti; Interdental cells; Tectorial membrane; Endolymph (Prieto, J.J. (45) 51)

Slow contraction
Efferent fibres; Hair cells, outer; Cochlear microphonic (Patuzzi, R. (45) 15)

Spiral ganglion
Auditory nerve; EABR; Rat; Evoked potentials (Hall, R.D. (45) 137)

Spontaneous discharge rate
Guinea pig; Auditory nerve; Rate-intensity function; Threshold; Dynamic range (Winter, I.M. (45) 191)

Steady-state responses
Auditory evoked potentials; Auditory cortex; Cat; 40 Hz response (Mäkelä, J.P. (45) 41)

Subsurface cisternae
Outer hair cell; Motility; Ultrastructure (Evans, B.N. (45) 265)

Sulfated glycoconjugates
Organ of Corti; Tectorial membrane; Donnan equilibrium (Prieto, J.J. (45) 283)

Suppression
Aging; Cochlea; Hearing loss; Presbyacusis; Gerbil; Auditory nerve; Noise; Tuning (Schmiedt, R.A. (45) 221)

Synapse
Cochlea; Hair cell; Auditory afferents; Transmitter; L-Glutamate (Gleich, O. (45) 295)

Tectorial membrane
Organ of Corti; Interdental cells; Endolymph; Secretion (Prieto, J.J. (45) 51)

Cochlea; Lectins; Carbohydrates; Hypothyroidism; Rat (Gil-Loyzaga, P. (45) 151)

Organ of Corti; Sulfated glycoconjugates; Donnan equilibrium (Prieto, J.J. (45) 283)

Tectum
Inferior colliculus; Transplantation; Cell suspension; Fluorescent dye (Zrull, M.C. (45) 237)

Temporal processing
Adaptation; Amplitude modulation; Anuran; Click; Mating call (Epping, W.J.M. (45) 1)

Threshold
Development; Duration; Chickens (Gray, L. (45) 169)

Guinea pig; Auditory nerve; Rate-intensity function; Spontaneous discharge rate; Dynamic range (Winter, I.M. (45) 191)

Noise; Hypoxia; ABR; TTS; Hearing loss (Attias, J. (45) 247)

Transmitter
Cochlea; Hair cell; Auditory afferents; Synapse; L-Glutamate (Gleich, O. (45) 295)

Transplantation
Inferior colliculus; Tectum; Cell suspension; Fluorescent dye (Zrull, M.C. (45) 237)

TTS
Noise; Hypoxia; ABR; Threshold; Hearing loss (Attias, J. (45) 247)

Tuning
Aging; Cochlea; Hearing loss; Presbyacusis; Gerbil; Auditory nerve; Noise; Suppression (Schmiedt, R.A. (45) 221)

Ultrastructure
Outer hair cell; Motility; Subsurface cisternae (Evans, B.N. (45) 265)

Vestibular sensory macula
Otolithic sensory apparatus; Otolithic membrane; Mechanical transduction; Frog vestibular sensory organ (Kachar, B. (45) 179)